REMARKS

Claims 1 and 7-18 are pending in this application upon entry of the response filed February 1, 2006 in reply to the November 1, 2005 Office Action, as indicated in the March 2, 2006 Advisory Action. Claim 1 is amended herein for clarity to more particularly define the invention. Support for this amendment is found in the language of the original claims and throughout the specification. No new matter is added by this amendment and its entry and consideration are respectfully requested. In light of this amendment and the following remarks, applicants respectfully request reconsideration of this application and allowance of the pending claims to issue.

I. Drawings

The Advisory Action states that Figure 8 remains objected to on the basis that the substitute Figure 8 submitted with the February 1, 2006 response is still too dark.

Included herewith is another substitute Figure 8 with clearly visible bands adjacent to the arrows in Figure 8. Thus, this objection has been mooted and applicants respectfully request its withdrawal.

II. Rejection under 35 U.S.C. § 112, second paragraph

The Advisory Action states that the rejection of claims 5, 6 and 13 under 35 U.S.C. § 112, second paragraph, in the November 5, 2005, as allegedly being indefinite, has been overcome on the basis of the amendments to the claims presented in the February 1, 2006 response.

III. Rejection under 35 U.S.C. § 102(e)

The Advisory Action states that applicants' amendments and arguments presented in the February 1, 2006 response fail to overcome the rejection of the claims 1 and 4-18 under 35 U.S.C. § 102(e) as allegedly anticipated by Baszczynski et al. publication no. 2004/0005713. Specifically, the Advisory Action states that applicants argue that in the methods of Baszczynski

et al., there must be two non-identical target sites in the plant genome and sites flanking the DNA of interest must also be non-identical to recombine with the two non-identical sites in the plant genome. The Advisory Action goes on to state that Baszczynski et al. discloses a cell transformed with an *Agrobacterium* replicon with "a first target site for a site-specific recombinase, a viral replicon, said DNA sequence of interest, and a second target site for recombinase in a direct repeat with said first target site, wherein said first and second target sites are identical." (paragraph 0024). The Advisory Action further states that paragraph 0027 teaches that this DNA of interest integrates into the genome and then excises using the identical first and second sites and that the excised circle then integrates through targeted integration with a corresponding sequence. The Examiner states that the claims do not occlude that the second integration occurs through a double cross over event and that the claims only recite that the target site on the chromosome is flanked by a single recombination site, which only limits the sequence on one side of the DNA to a single recombination site but does not limit the target site to only one recombination site.

Case law very specifically holds and the M.P.E.P. states that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. *Apple Computer Inc. v. Articulate Systems Inc.* 57 USPQ2d 1057, 1061 (Fed. Cir. 2000).

The present invention is not anticipated by the Baszczynski et al. publication. Specifically, the present invention provides a method for the targeted insertion of a nucleotide of interest into a specific chromosomal site within a plant cell, said method comprising the steps of: (a) providing a plant cell having a heterologous target site on a chromosome thereof, wherein said target site is flanked on only one side by a single recombination site, which single

recombination site is recognized by a site-specific recombinase enzyme; and then (b) transforming said plant cell with an *Agrobacterium* transformation vector carrying a nucleotide sequence of interest, wherein said nucleotide sequence of interest is flanked by a pair of identical recombination sites, one on each side thereof, that correspond to the single recombination site of said target site, so that said nucleotide of interest *(i)* is randomly inserted into a chromosome of said plant cell, *(ii)* generates an excision circle therefrom, and then *(iii)* is inserted into said chromosome at said target site; wherein said transforming step is carried out in the presence of a site-specific recombinase effective to carry out recombination at said recombination site and insert said nucleotide of interest into said chromosome at said target site. Support for this amendment to claim 1 can be found throughout the teachings of the specification, at least, for example, as shown in Figures 1 and 2 and described on page 4 and on page 13, lines 13-15.

In contrast, Baszczynski et al. describes methods whereby a DNA of interest is inserted into a plant genome by site-specific recombination between two different target sites flanking the DNA of interest and two different target sites in the genome that match the target sites flanking the DNA of interest (see, e.g., paragraph 0027 and figures 2 and 3). Thus, the method of Baszczynski et al. is distinguished from the claimed invention on the basis that 1) in the methods of Baszczynski et al., there must be two non-identical target sites present in the plant genome, whereas in the present invention, only a single target site is present; 2) in the methods of Baszczynski et al., the target sites flanking the DNA of interest must be non-identical in order to recombine with the two non-identical target sites in the plant genome, whereas in the present invention, the target sites flanking the DNA of interest are identical to one another and to the single target site in the plant chromosome, and 3) the end result of the recombination events described in Baszczynski et al. is a DNA of interest inserted into a plant genome between two non-identical target sites, whereas in the present invention, the end result is a DNA of interest inserted into a plant chromosome between two identical target sites.

Applicants also point out that the constructs shown in the diagram at the top of both figures 1 and 2 of Baszczynski et al. show two identical recombination sites , but that according

to the teachings of Baszczynski et al., these are not the constructs that are inserted into the plant genome. Rather, as described in paragraph 0010 of Baszczynski et al., the circular viral replicon shown in figure 1 (which contains a single target site on the replicon and not two identical target sites as required on the constructs of the present invention) is produced as a result of transformation of a plant cell with a viral replicon flanked by directly repeated target sites and subsequent recombinase-directed excision. Once in the cell, according to the teachings of Baszczynski et al, the circular viral replicon of figure 1 is only described as replicating to high copy number and Baszcsynski et al. does not describe any method whereby this circular viral replicon, comprising a single recombinase site, is inserted into a specific chromosomal site within a plant cell by site-specific recombination with a heterologous target site on the chromosome. Neither figure 1 nor paragraph 0010 of Baszczynski et al. make any mention of a target site in plant cell genome. The end result of the integration of this construct (assuming *arguendo* that the circular viral replicon of figure 1 is inserted into the plant genome, which is neither taught or suggested) would be a plant genome with an inserted DNA flanked on one side by a recombinase site, which is not the end result of the claimed invention, which is an inserted DNA flanked on either side by identical recombinase sites.

Furthermore, the circular plasmid of figure 2 as shown in Baszczynski et al. contains two non-identical target sites, in contrast to constructs of the present invention that contain two identical target sites. The end result of the integration of this construct would be a plant genome with an inserted DNA flanked on either side by non-identical recombinase sites. This is also not the end result of the claimed invention, which is an inserted DNA flanked on either side by identical recombinase sites.

Thus, for at least the reasons set forth above, the claimed invention is not anticipated by the Baszczynski et al. publication and applicants respectfully request the withdrawal of this rejection.

In view of the foregoing amendments and remarks, applicant respectfully requests that all

outstanding rejections to the claims be withdrawn and that a Notice of Allowance be issued in due course. The Examiner is invited and encouraged to contact the undersigned directly if such contact will expedite the prosecution of the pending claims to issue. In the event that the Examiner fails to find allowable subject matter upon review of the claims as presented herein, applicants respectfully request a telephone interview to include the Examiner, the Examiner's supervisor and a Practice Specialist, prior to the issuance of any further actions for this application.

A check in the amount of $1240 ($450 fee for two month extension of time and $790 fee for Request for Continued Examination) is enclosed. This amount is believed to be correct. However, the Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,

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I hereby certify that this Amendment is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and is addressed to Mail Stop RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Tracy Wallace